NJ Watershed Watch Network Department of Environmental Protection

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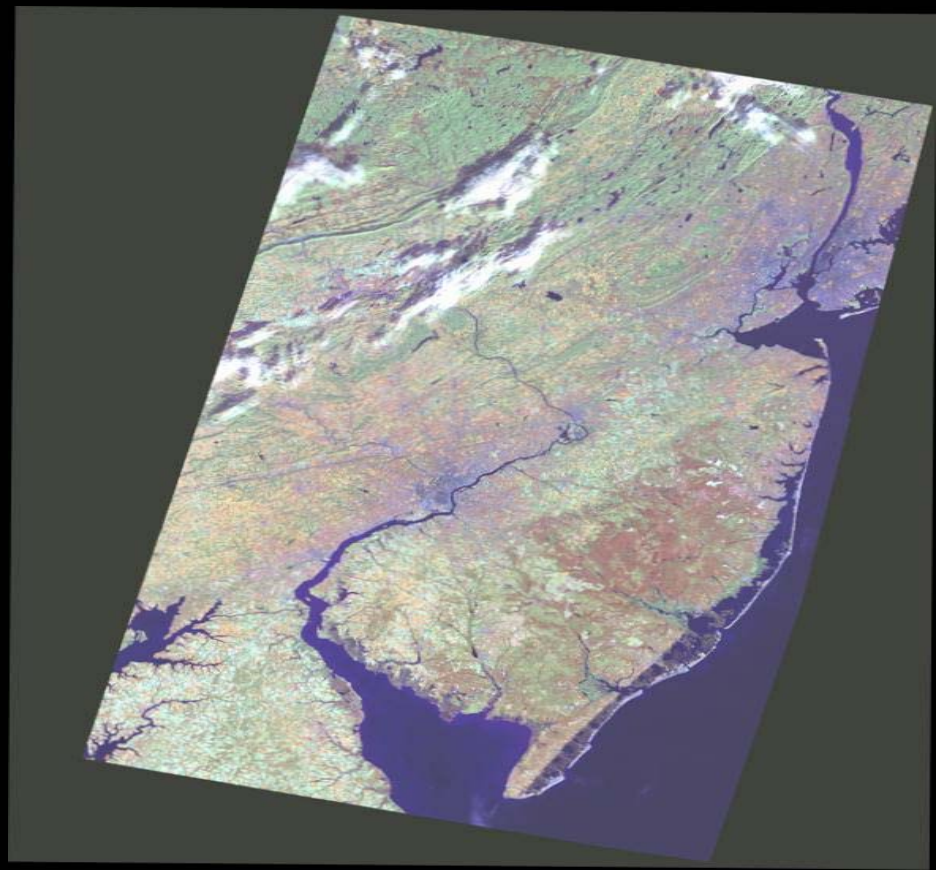


Overview

- I’m From New Jersey….
- NJ Watershed Watch Network
- Changing the Stereotypes of Using Volunteer Collected Data
- NJ Tiered Approach to Volunteer Collected Data
- Data Users/Data Uses
- Name That TIER

What Exit are You From?

Great Bay, Tuckerton, NJ

Oswego River, Pine Barrens, N J

Great Falls, Paterson, NJ

The Great Falls are the second-highest on the east coast (second only to Niagara).

Scott's Landing Creek, Leeds Point, NJ

- Population NJ (2003) 8,638,396
- 7,417 square miles
- 1,134.4 persons per square mile

7,840 miles of rivers

DEP's latest evaluation, of the *2,308 assessed river miles, 1,913 (83%)river miles did not meet surface water quality standards*

Myths of Using Volunteer Collected Data

- Quality Assurance & Quality Control
- Volunteers have “hidden agendas”
- Volunteers are not scientists

Reality of Using Volunteer Collected Data

- We need more data at a higher frequency of collection
- EPA has been encouraging the use of volunteer collected

  data since 1988
- Volunteers want to do it right

NJ Watershed Watch Network

- **29 River/Stream Monitoring Organizations**
  - **800 active river monitors**
  - **Over $460,000 annually**
- **58 Lake Monitoring Organizations**

NJ Watershed Watch Network

- **Internal Advisory Council**
  - Water Monitoring & Standards
  - Water Assessment Team
  - Division of Watershed Mgt.
  - Office of Quality Assurance
- **External Advisory Council**
  - Riverkeepers
  - Watershed Associations
  - Volunteer Coordinators

Potential Data Uses

- Education
- Identifying potential sources of pollution
- Local decision making
- Research
- NPS assessment
- TMDL
- Watershed planning/open space acquisition
- Monitoring the success/failure of restoration projects
- 303d & 305b Integrated Report

NJ's 4 Tiered Approach

- Allows for volunteers to choose level of monitoring involvement based on:
  - *Intended purpose for monitoring*
  - *Intended data use*
  - *Intended data users*

Tier A-Environmental Education

Data Users	Data Use	Quality Needed
•Participants •Students •Watershed residents	•Promote stewardship •Raise their level of understanding of watershed ecology	•Low level of rigor, but use sound science •Wide variety of study designs are acceptable •Quality assurance (QA) optional

Tier B-Stewardship

Data User	Data Use	Quality Needed
•Participants •Watershed residents •Landowners •Local decision makers (optional)	•Understanding of existing conditions and how any changes over time •Screen for and identify problems and positive attributes	•Low to medium rigor •Variety of study designs is acceptable •Training •QAPP recommended

Tier C-Community &/or Watershed Assessment

Data Users	Data Use	Quality Needed
•Local decision-makers •Watershed association •Environmental organizations •Possibly DEP	•Assess current conditions •Track trends •Source track down of Nonpoint source pollution	•Medium/high level of rigor •Data needs to reliably detect changes over time & space •QAPP approved & on file w/ intended data user. •Training required

Tier D-Indicators & Regulatory Response

Data Users	Data Use	Quality Needed
•NJDEP •Local decision-makers •Watershed associations ▪Environmental organizations	•Assess current conditions •Supplement agency data collection •Research •Evaluate best management practices (BMP) measures •Regulatory Response	•High level of rigor •Study design & methods need to be equivalent & recognized by agencies using data •Training required •QAPP approved by Office of Quality Assurance & data user, annual recertification • Audits

Education/ Awareness

Problem ID, Assess Impairment, Local Decisions

Legal & Regulatory

Increasing Time - Rigor - QA - Expense $$

Thanks….Geoff Dates

NJDEP Data Users

- Watershed Area Managers *(TIERS B,C,D)*
- Water Assessment Team/Standards *(TIER D)*
- NPS Program *(TIER C, D)*
- TMDL Program *(TIER B, C, D)*
- Other Programs or Divisions

Addressing Data Quality Issues

- Quality Assurance Criteria
- QAPP or Study Design is needed
- Program Specific Training & Support
- *Individual* Evaluation of each Monitoring Program
- There needs to be *"translator"* between volunteer community & regulatory agency
- Communication, Communication, Communication

THE STATE'S MONITORING MATRIX

NJ Water Monitoring & Assessment Strategy 2005-2014

Data Use

- Organizations need to *Take Ownership* of their Information
- Organizations need Guidance on Different Types of Data Use
- *Sometimes it may take another person to find your story….*
  - share success and failures stories
  - get the word out-articles, press releases
  - find examples of data uses at all levels, local, state, & national

NAME THAT TIER

Delaware River Oil Spill Volunteer Emergency Response

- **Basic Study Design**
- **Assigned Segments**
- **Assessment Tip Sheets**
- **Data Sheets *standardized* w/ State Protocol**

- ***No* Fixed monitoring locations**
- ***No* QAPP**
- ***No* Training**

What did Volunteers Document?

- 15 New Jersey tributaries suffered oiling
- One Delaware tributary suffered oiling
- 4 New Jersey Beaches suffered oiling
- Three wildlife preserves suffered oiling
- Various main stem Delaware River locations
- 13 streams monitored had no signs of oiling at time of monitoring (PA and DE mostly)

Boom Placement & Malfunction

Faith Zerbe, Delaware Riverkeeper Network

Riverkeeper Data Use

- Emergency response/clean up vigilance
- Talks with Coast Guard and NRDA officials – checks on scope of oiling, reports
- Press
- Increased citizen base for advocacy issues

Faith Zerbe, Delaware Riverkeeper Network

NJ Natural Resource Damage Assessment

NAME THAT TIER

TIER B

Stewardship/Screening

Pequannock River Coalition

Why did ***we*** choose temperature monitoring?

Trout!

Much of the of the Pequannock River mainstem and many river tributaries are classified as "trout production" where temperature can be a major limiting factor.

First documented fish kill caused by high river temperatures in the West Milford area in 1994 .

River temperature reached 82F.

A second fish kill occurred in the same area in 2002.

River temperature reached 83F.

Ross Kushner, Pequannock River Coalition

- **Electronic "data loggers" are placed in the river at known monitoring locations in early summer for the entire growing season**
- **Fixed Monitoring Locations**
- **Stations are located where data loggers can be checked frequently**
- **Loggers record Temp every 30 minutes**
- **Early Fall data loggers are removed & data is downloaded**

Ross Kushner, Pequannock River Coalition

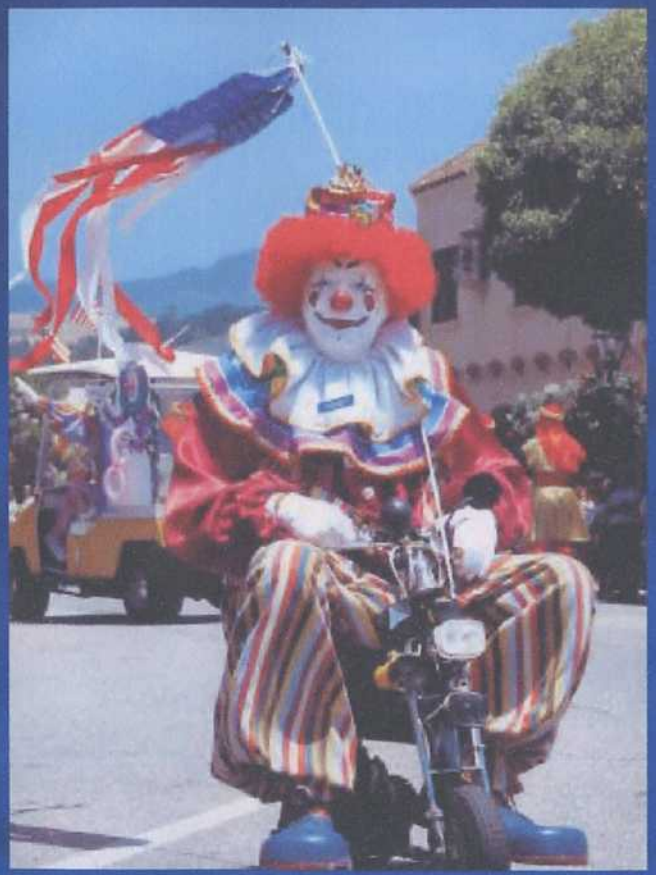
Are You Certifiable? Probably!

Requirements:

1 - Dedicated laboratory "manager" with experience or training.

2 - High-grade, approved QA/QC Plan and Procedures.

3 – Quarterly calibration checks of data loggers.



4 – Annual recalibration of NIST thermometer.

5 – Solid documentation of calibration tests, deployment sites, collected data, etc.

6 – Annual license fee ($900).

Ross Kushner, Pequannock River Coalition

TIER D

Regulatory Response